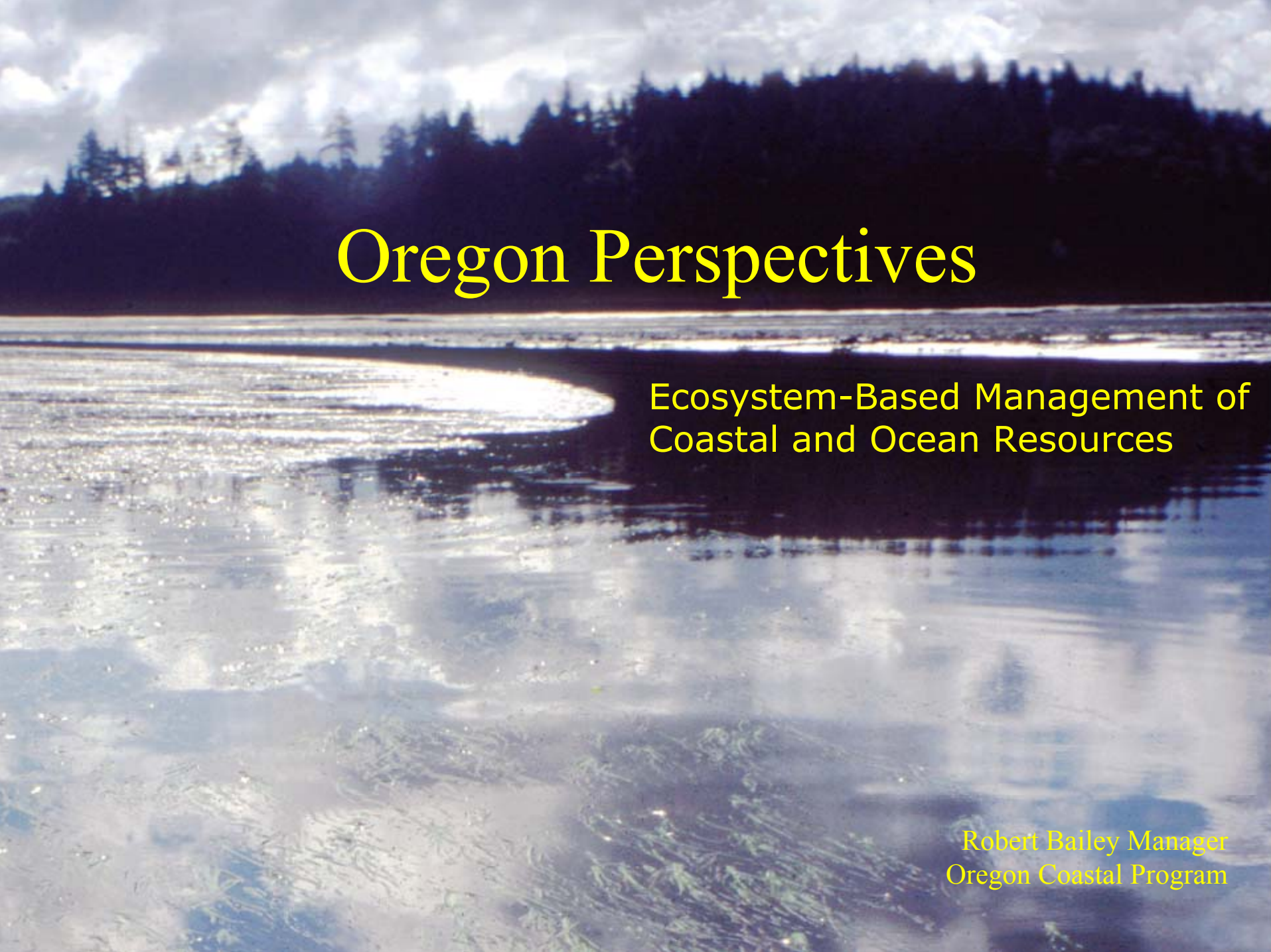


Oregon Perspectives

Ecosystem-Based Management of Coastal and Ocean Resources

Robert Bailey Manager
Oregon Coastal Program

"Ecosystem management" means

Applying knowledge of ecosystem conditions and functions to adaptive management of resources and uses.

Bailey, 2005

Oregon's coastal management program is embedded in a statewide system of land use planning and management at state and local levels, based on 19 Statewide planning goals:

1. Citizen Involvement
2. Land Use Planning
3. Agricultural Land Protection
4. Forest Land Protection
5. Natural Resources, Open Spaces
6. Air, Water, Land Quality
7. Natural Hazards
8. Recreation
9. Economic Development
10. Housing
11. Public Facilities
12. Transportation
13. Energy Resources
14. Urban Growth
15. Willamette River Greenway
16. Estuarine Resources
17. Beaches and Dunes
18. Coastal Shorelands
19. Ocean Resources

Oregon's land use planning program is comprehensive, coordinated, and mandatory.

But it is not "ecosystem management."

Bridging from the present to the future

The OCMP is a network of state laws, state and local regulations, and customs that pre-date the concept of "ecosystem management."

State laws for natural resources are limited in scope and intended to address specific needs, not anticipate complex, ecosystem conditions.

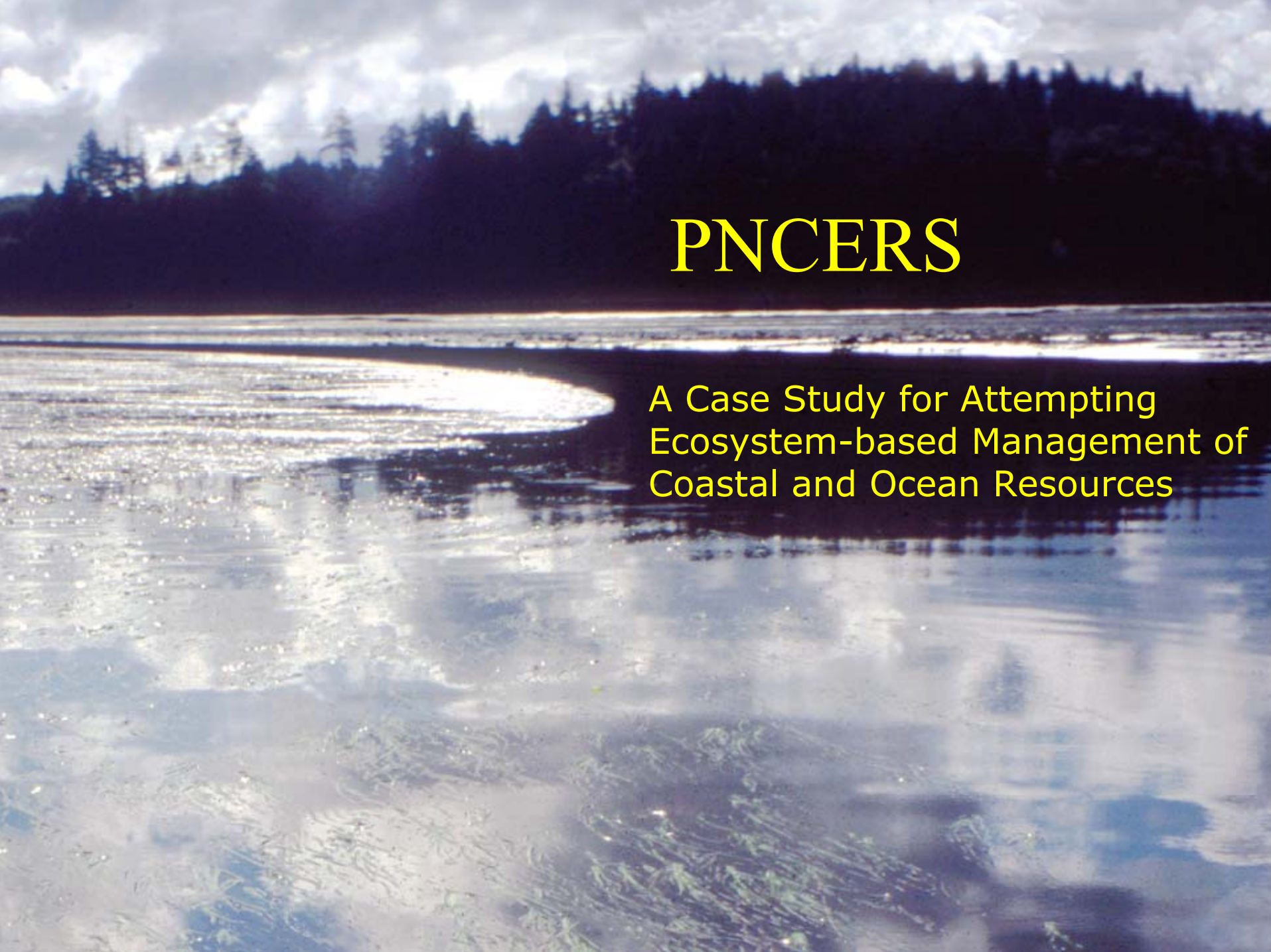
Information required for management has been conceived of as "inventory" information with no functional ecosystem context. Some information is assumed to be available.

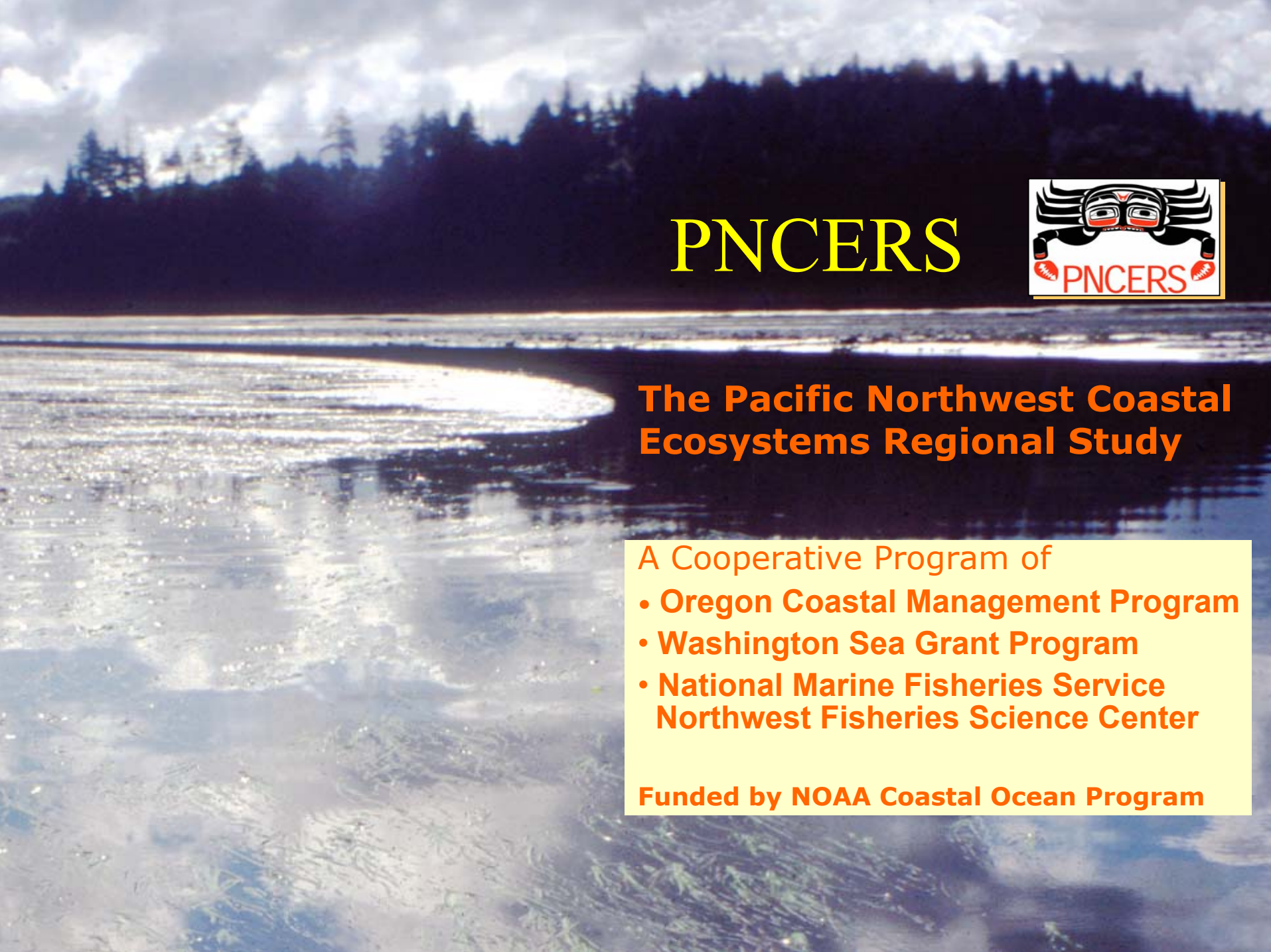
Oregon's "conserve and develop" approach provides the basis for what we now call "ecosystem management." It is also the basis for what we call "smart growth."

Political reality dictates that "ecosystem management" will require building on, not replacing, existing regulations and creating collaborative, information-based processes over appropriate spatial and temporal scales.

From 1996 to 2002, the OCMP was an initiator of…and principal partner in…a regional program that previewed a number of aspects of what "ecosystem management" will need to consider in the coastal region of the Pacific Northwest.

Here, briefly, is that story and some lessons learned.


PNCERS
A Case Study for Attempting
Ecosystem-based Management of
Coastal and Ocean Resources



PNCERS

The Pacific Northwest Coastal Ecosystems Regional Study

A Cooperative Program of

- **Oregon Coastal Management Program**
- **Washington Sea Grant Program**
- **National Marine Fisheries Service Northwest Fisheries Science Center**

Funded by NOAA Coastal Ocean Program

PNCERS

Program Framework

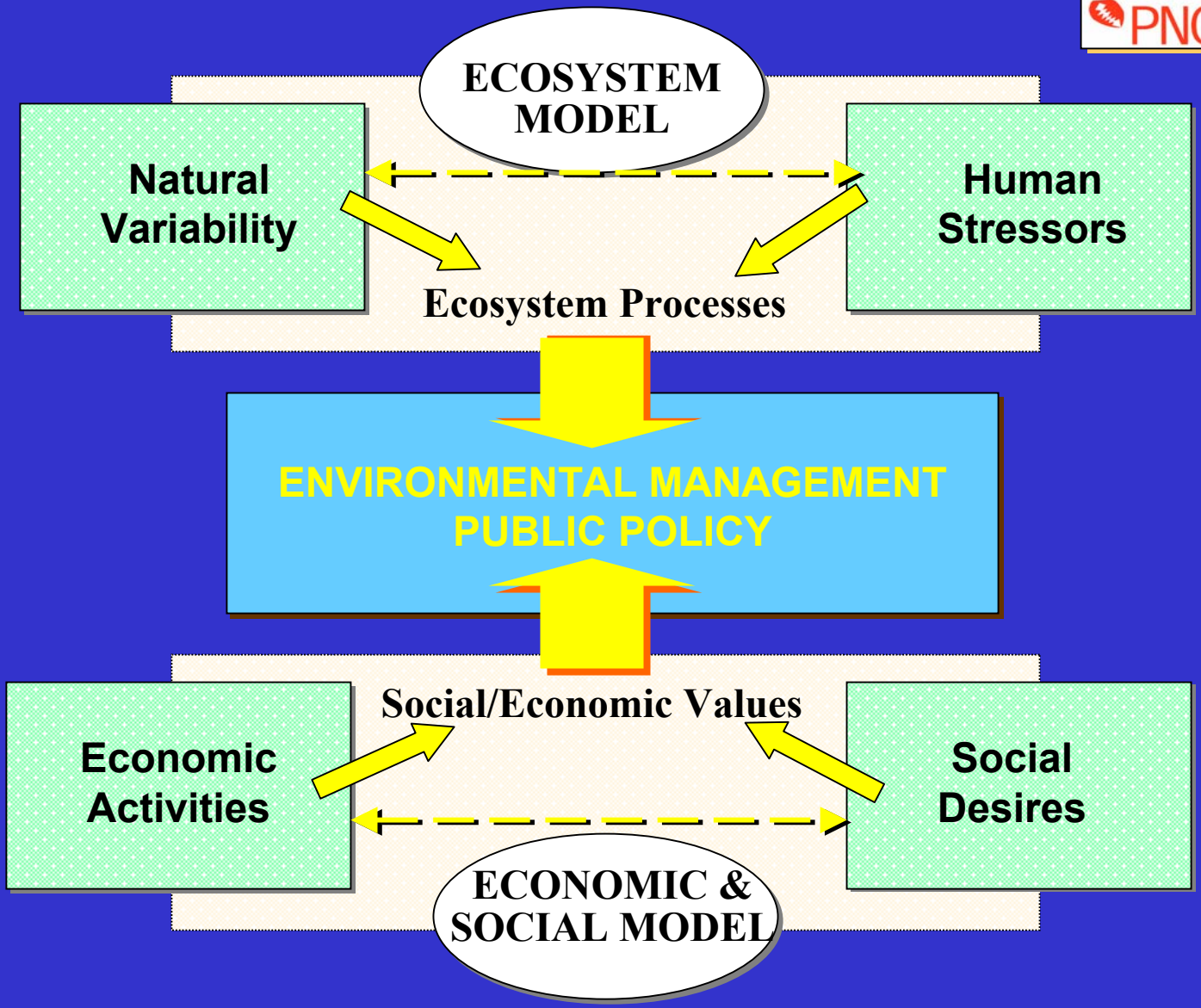
- Regional in scale
- Ecosystem in scope
- Interdisciplinary
- Multidisciplinary
- Multi-institutional
- Link natural to social sciences
- Salmon context, not salmon focus

PNCERS

MISSION:

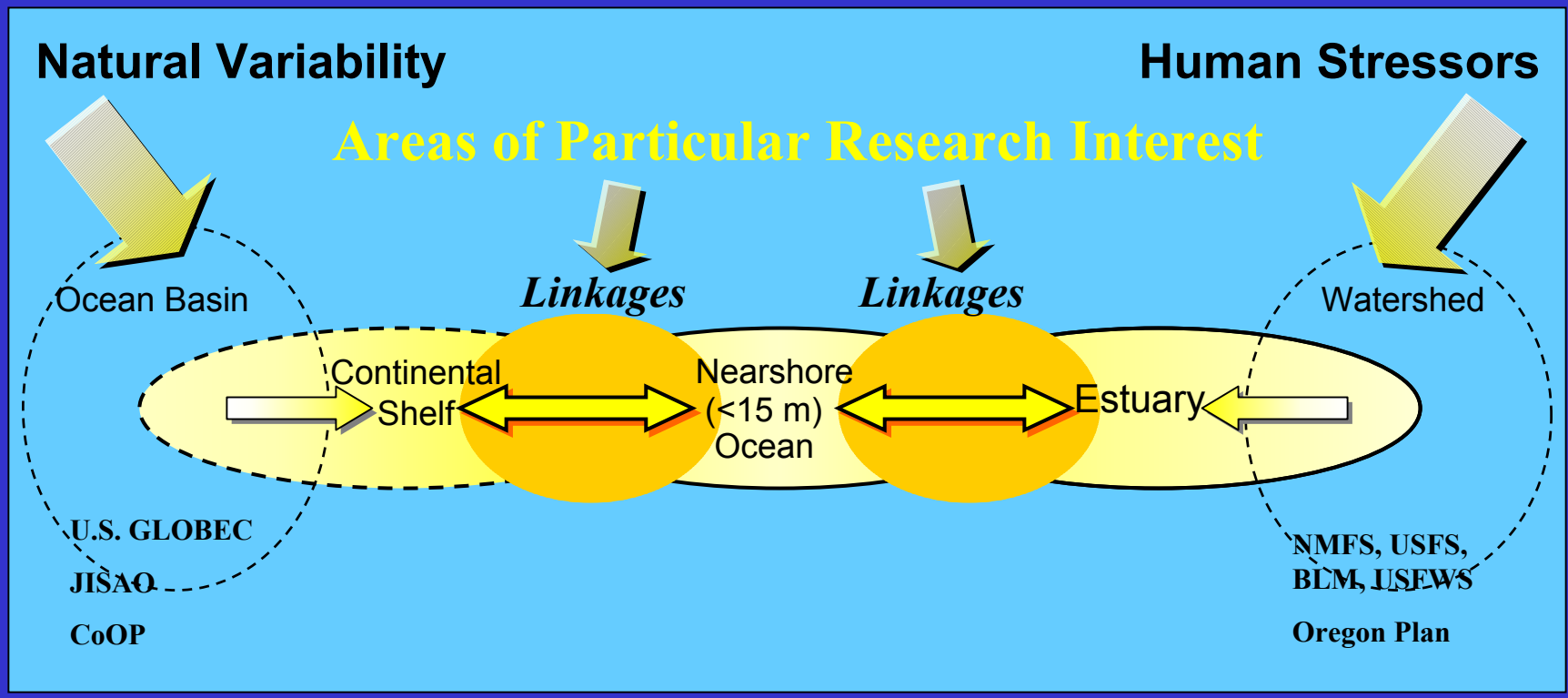
"To improve the understanding of natural variability and anthropogenic stressors on coastal ecosystems that support salmon, and to translate that understanding into improved management of resources and activities that affect coastal ecosystems."

Program Conceptual Model



Applying the Conceptual Model

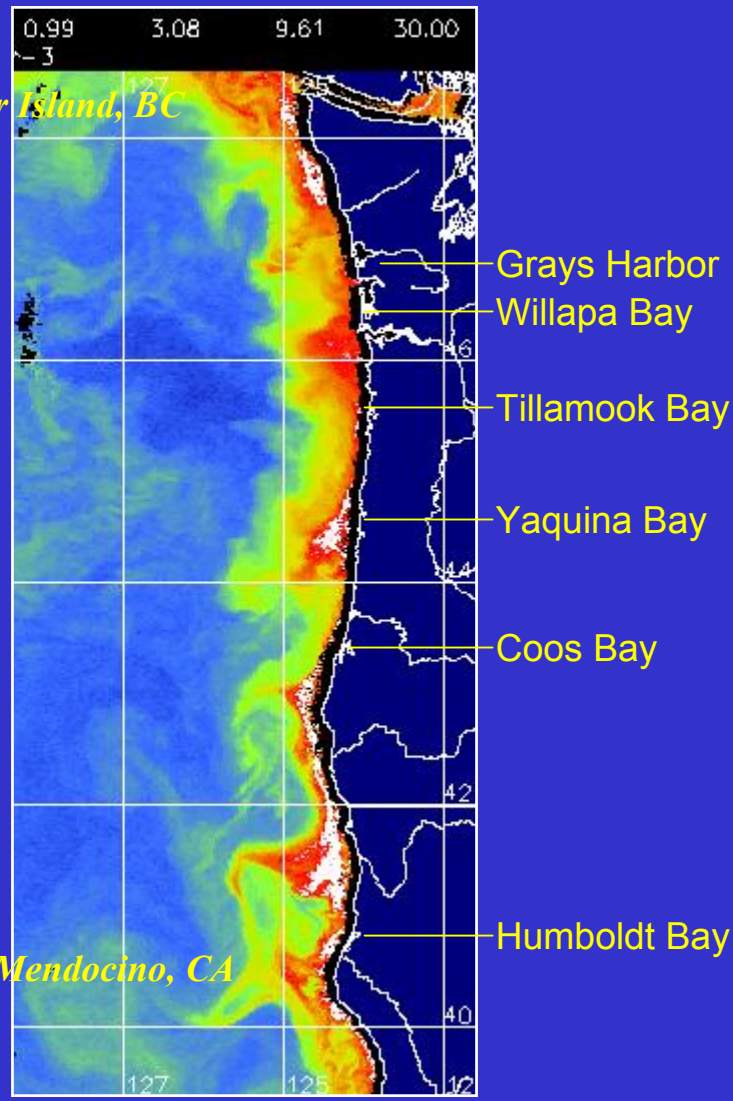
PNCERS focused most research on processes that link major components of coastal ecosystems. PNCERS research was coordinated with other ocean and watershed research programs.



Geographic Scope of Research

PNCERS focused on physical, biological, and social processes, historic changes, and management regimes between Vancouver Island, BC, and Cape Mendocino, CA, the Northern California Current Ecosystem.

This LME is a distinct subset of the California Current Ecosystem.



Program Organization

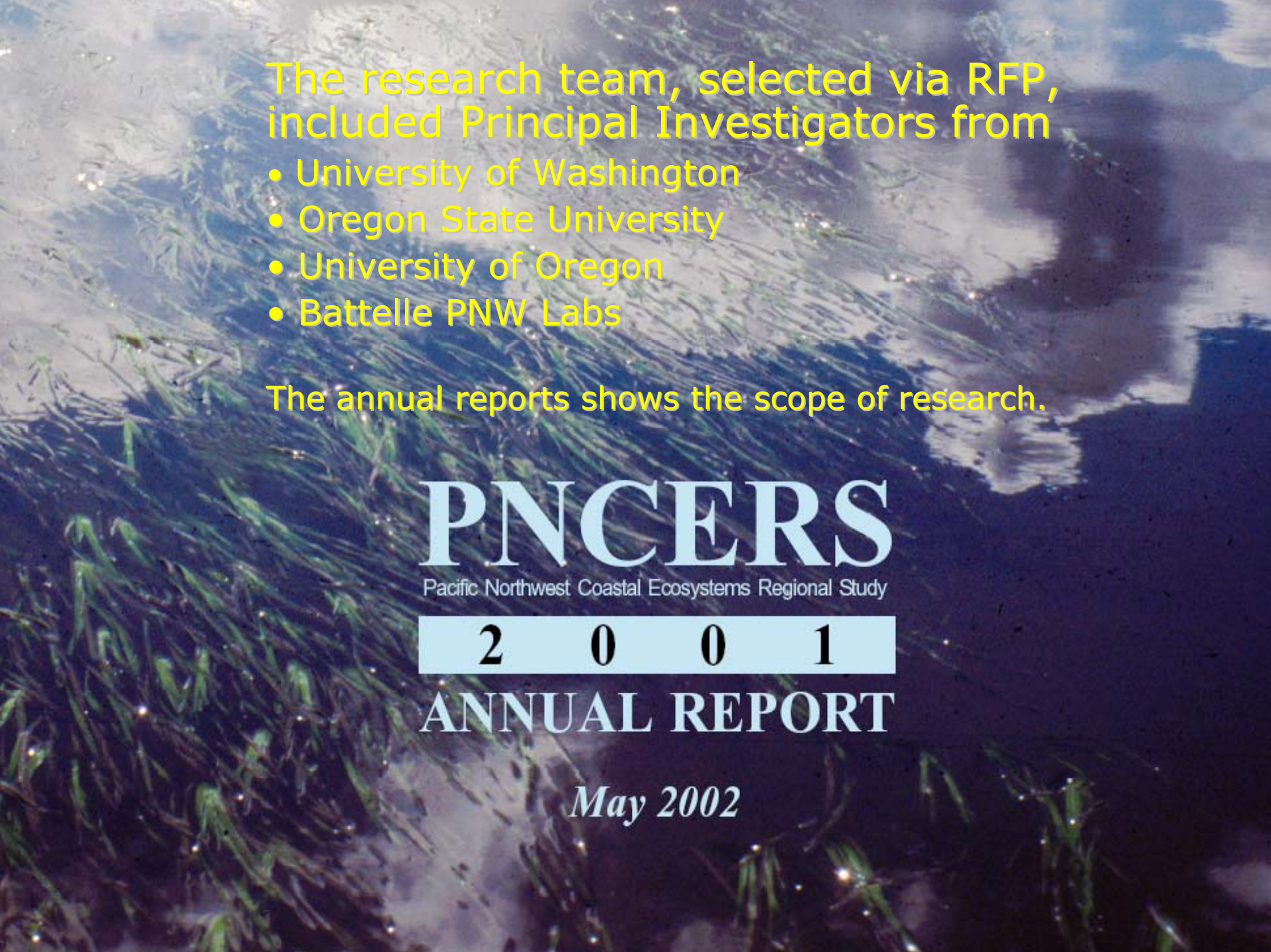
Program Management Team (OCMP, WSG, NMFS with full-time staff coordinator)

- Research (science team with research coordinator)
- Outreach (PMT)
- Synthesis (science and PMT)

Program oversight: NOAA Coastal Ocean Program

Cost:

$1.2 mm/year; total of about $6mm


The research team, selected via RFP, included Principal Investigators from
• University of Washington
• Oregon State University
• University of Oregon
• Battelle PNW Labs
The annual reports shows the scope of research.
PNCERS
Pacific Northwest Coastal Ecosystems Regional Study
2 0 0 1
ANNUAL REPORT
May 2002

PNCERS Projects in Year 4 (2001)

Other PNCERS Activities:

- Annual workshops with coastal/estuarine practitioners
- Annual program synthesis workshops with investigators, grad students, and partners
- Annual program report with preliminary research results
- Website
- Regional metadata posting
- Print publications: Regional Synthesis document
- Regional Estuary Management overview
- Historical change website

What We Learned

- ✓ Ecosystem science and resource management operate on fundamentally different time and spatial scales.
- ✓ Scientists, managers, and practitioners have different cultures, languages, and standards of accountability.
- ✓ Scientists ask questions, managers want answers.
- ✓ Communication is key: purposeful mechanisms and enduring effort are essential to ensure communication among scientists, managers, practitioners, and stakeholders.
- ✓ Multidisciplinary is easy; interdisciplinary is difficult.
- ✓ Lack of long time-series data and basic field assessments hamper ecosystem research and understanding.
- ✓ At best, ecosystem understanding can offer principles and predictive guidance but not site-specific data for decisions.

What Didn’t Work

- Finite program length was artificially short. Continuity is needed to “institutionalize” this approach over time.
- Meaningful synthesis lags research.
- Funding for synthesis was inadequate.
- Research and process studies (monitoring) take more time than anticipated.

Conclusions:

- Ecosystem management can be achieved but will take focused effort, long-term commitment, and political will.
- Ecosystem management will require new money in addition to existing funding, even with re-orientation of programs and efforts.
- Ecosystem management must not be a fad. Turning programs off in three or four years in favor of another approach will be disastrous.
- Ecosystem management requires robust partnerships:
  - States can and must be partners and leaders in this effort. They are the bridge to local communities and stakeholders.
  - Federal agencies and resources will provide the financial and technical backbone.
  - Universities have tremendous research and technical capacity Sea Grant programs will be a critical partner and liaison.
  - Empowering local practitioners and communities with information is essential to on-the-ground success.

For more information, see

www.pncers.org